10,000 Teachers, 10 Million Minds
Science and Math Scholarship Act
H.R. 4434
Sponsored by Rep. Bart Gordon (D-TN)
Introduced December 6, 2005

Summary

The bill implements most of the K-12 science education recommendations of the National Academy of Sciences (NAS) report, *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future.* It establishes a scholarship program at the National Science Foundation (NSF) to provide scholarships to science, math and engineering students who commit to become science or math teachers at elementary and secondary schools; authorizes summer teacher training institutes at NSF and the Department of Energy (DOE) to improve the content knowledge and pedagogical skills of in-service science and math teachers; establishes a master's degree program at NSF for in-service science and mathematics teachers; and establishes training programs at NSF for preparing science and math teachers to teach Advanced Placement and International Baccalaureate courses in science and math.

Authorization of Appropriations for K-12 Science Education Bill - Augustine Report Recommendations

($ millions)

Program [agency]	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total
Teacher Scholarships [NSF]	85	220	400	590	690	1985
Summer Teacher Institutes [NSF]	37	92	110	110	110	459
Summer Teacher Institutes [DOE]	3	8	10	10	10	41
Master's Degree Programs [NSF]	200	400	600	600	600	2400
AP-IP Teacher Training [NSF]	92	153	219	296	357	1117
K-12 Curricular Materials [NSF]	30	31	32	33	34	160
Total	447	904	1371	1639	1801	6162

Sectional Summary of Bill

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Title I - Science Scholarships

Section 101 **Short Title of the bill.**

Section 102 **Findings relating the bill to the NAS report recommendations.**

Section 103 **Policy objective of the bill - to increase by 10,000 annually the number of capable K-12 science and math teachers.**

Section 104 **Establishes a scholarship program administered by NSF with the following features:**

- Provides competitive awards to institutions of higher education (or consortia of such institutions) that (1) establish cross-department faculty teams (science, math and engineering faculty along with education faculty) to develop courses of instruction leading to baccalaureate degrees in fields of science, math and/or engineering and also preparing graduates to become certified and licensed to teach in a K-12 classroom, and (2) enter into agreements with private sector entities to support paid summer internships for scholarship recipients.
- Requires the distribution of awards among institutions of different sizes and geographic locations.
- Requires awardees to provide professional development and mentoring support to scholarship recipients, before and after matriculation.
- Sets scholarship amounts at the cost of attendance at particular institutions, not to exceed $20,000 per year, and provides up to 4 years of scholarship support for any individual.
- Requires scholarship recipients to commit to teaching for up to 5 years following graduation (the period of teaching commitment is based on the number of years of scholarship support), reduces the commitment by one year for individuals who teach at high-need schools, and converts the scholarships to student loans if the teaching commitment is not met.

Section 105 creates a trust fund to accept gifts and donations for funding scholarships under Section 104.

Section 106 authorizes $85 million for NSF for FY 2007, $220 million for FY 2008, $400 million for FY 2009, $590 million for FY 2010, and $690 million for FY 2011. This assumes ramping up to 10,000 new scholarships per year by year 3 at an average of $15,000 each and ramping up institutional awards over three years to $100 million per year. A steady state of 40,000 active scholarships and 10,000 graduates per year is reached in year six. The appropriations required will depend on actual cost of attendance for scholarship recipients and the level of trust fund contributions.

Title II - Science and Math Teacher Programs

Section 201 authorizes summer institutes at NSF and DOE:

- NSF program is created by expanding the existing Teacher Institutes for the 21st Century program (currently eight awards of $1 million each), which is a component of the Math and Science Partnerships program. This program, which is an intensive multi-year professional development program focused on preparing master teachers, is expanded by increasing the number of awards and by allowing grantees to operate one to two week summer institutes in order to reach a larger number of teachers per the Augustine report recommendation.
- DOE provision authorizes the existing Laboratory Science Teacher Professional Development program at an increased funding level (currently $1.8 million; 105 teachers per year). This is a more intensive program than a normal summer institute (four-eight weeks, first year and two-eight weeks for next two years) where teachers are hosted at national labs for three summers ($800 per week stipend plus travel and per diem) and maintain contact/interaction with their lab hosts during the school year.
- Authorizes $37 million for NSF for FY 2007, $92 million for FY 2008, and $110 million per year for FY 2009 through FY 2011. This assumes 92% of the estimated 50,000 teacher per year in the program (at steady state after ramp up) are supported under the NSF program and the remainder under the DOE program.
- Authorizes $3 million for DOE for FY 2007, $8 million for FY 2008, and $10 million per year for FY 2009 through FY 2011.

Section 202 establishes a master's degree program for science and math teachers administered by NSF with the following features:

- Provides competitive awards to institutions of higher education that develop and implement master's degree programs for in-service math and science teachers, who attend on a part-time basis and who will be able to complete the degree requirements within two years. Awards support costs of course development, cost of attendance of teachers, and acquisition of computer and networking equipment needed for instruction, possibly including online course offerings.
- Requires the distribution of awards among institutions of different sizes and geographic locations.
- Authorizes $200 million for NSF for FY 2007, $400 million for FY 2008, and $600 million per year for FY 2009 through FY 2011. This assumes ramping up to a program that will reach 50,000 teachers over 5 years.

Section 203 establishes a teacher training program administered by NSF to prepare science and math teachers to teach Advanced Placement and International Baccalaureate courses with the following features:

- Provides competitive awards to institutions of higher education to develop the training programs, cover the cost of attendance for participating teachers, and acquire needed educational materials and equipment (online learning is an option). hat develop and implement master's degree programs for in-service math and science teachers, who attend on a part-time basis and who will be able to complete the degree requirements within 2 years. Awards support costs of course development, cost of attendance of teachers, and acquisition of computer and networking equipment needed for instruction, possibly including online course offerings.

- Requires the distribution of awards among institutions of different sizes and geographic locations to achieve the goal of reaching teachers in schools where few or no Advanced Placement and International Baccalaureate science or math courses are offered.
- Gives priority to applicants obtaining commitments from the private sector to offer bonuses to teachers for each student they teach who passes an Advanced Placement and International Baccalaureate science or math course.
- Authorizes $92 million for NSF for FY 2007, $153 million for FY 2008, $219 million for FY 2009, $296 million for FY 2010, and $357 million for FY 2011. This assumes ramping up to approximately 30,000 teachers per year using the NAS estimates, but not including costs of incentive or bonus payments for teachers (assumes such costs will come from private sector contributions).

Section 204: (1) establishes a national panel of experts to identify and collect K-12 science and mathematics teaching materials that have been demonstrated to be effective and to recommend the development of new materials in areas where effective materials do not exist; (2) directs NSF and the Department of Education to develop ways to disseminate effective materials and support efforts to develop new materials, in accordance with the recommendations of the national panel; and (3) authorizes NSF's Instructional Materials Development activity at the FY 2005 level of $30 million (the activity was cut by 33% for FY 2006) and provides 3% increases for the next four years.